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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Yunzhou Li

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McGUINNESS & MANARAS LLP
125 NAGOG PARK
ACTON, MA 01720

EXAMINER

NEURAUTER, GEORGE C

ART UNIT

PAPER NUMBER

2143

MAIL DATE

DELIVERY MODE

08/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/685,905	Applicant(s) LI, YUNZHOU	
	Examiner George C. Neurauter, Jr.	Art Unit 2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-36 is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-36 are currently presented and have been examined.

Response to Arguments

Applicant's arguments filed 16 July 2007 have been fully considered but they are not persuasive.

The Applicant traverses the Examiner's broadest reasonable interpretation regarding claims 1-19 regarding the limitation "if the data path does not include the forwarding information for the multicast data". The Applicant argues that "When a multicast packet is received by a router, forwarding information may or may not exist in the data path. This is a basic condition of routing which is not altered by the invention". This is exactly the position of the Examiner. The claims, as written, determine whether forwarding information is included in a data path and if or "in the event that" the data path does not include the forwarding information, the broadcasting and determination via a control path and storing a specific indication steps are performed. However, this only occurs if the data path does not include the forwarding information. Clearly, the determination of whether the data path includes forwarding information allows for both possibilities including that the forwarding information may be included. Therefore, the claims allow for the possibility that the data path does include the

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forwarding information. Since the claim does not explicitly recite what specific steps occur such a situation, the claim may encompass any limitations that occur and one possible interpretation exists that the data is simply forwarded which is as argued by the Applicant and also taught within the teachings of Acharya (see at least column 7, lines 25-41 and column 14, line 57-column 15, line 2). Therefore, the claims are not for condition for allowance in view of the broadest reasonable interpretation of the claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,903,559 to Acharya.

9. Regarding Claims 1, 8, and 15-17, Acharya discloses a method, a machine-readable medium and a router for processing multicast data associated with a multicast group and transmitted

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to a port of a line card, (per pending Claims 16 and 17), of a router, comprising the sequential steps of:

- determining whether a data path of the router includes forwarding information for the multicast data, (Fig. 8; Col. 7, lines 16-41; Col. 8, lines 51-67; Col. 9, lines 1-8; Col. 12, lines 43-67; Col. 13; Col. 14, lines 46-67; Col. 15, lines 1-29; and Col. 16, lines 21-27);
- if the data path does not include forwarding information for the multicast data, broadcasting the multicast data from each port of the router that could possibly be associated with a destination of the multicast data, (Fig. 8; Col. 7, lines 16-41; Col. 8, lines 51-67; Col. 9, lines 1-8; Col. 12, lines 43-67; Col. 13; Col. 14, lines 46-67; Col. 15, lines 1-29; and Col. 16, lines 21-27), (Examiner notes that it would have been obvious to one of ordinary skill in the art at the time of invention by Applicant to simultaneously broadcast data to all possible destinations wherein a multicast transmission is required and not all destination addresses are known, as a broadcast is an obvious, well-known

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and effective means by which device discovery is performed and further, Acharya clearly teaches motivation via the need for a scalable multicast system capable of accounting for the change in node number, (Col. 4, lines 13-15), wherein a simultaneous broadcast or multicast is an obvious means by which one detects node changes within the system.);

- subsequent to broadcasting the multicast data, determining via a control path which ports of the router are actually associated with a destination of the multicast data, (Fig. 8; Col. 7, lines 16-41; Col. 8, lines 51-67; Col. 9, lines 1-8; Col. 12, lines 43-67; Col. 13; Col. 14, lines 46-67; Col. 15, lines 1-29; and Col. 16, lines 21-27);
- whereby the multicast data is forwarded from the router even if the multicast data is dropped in the control path, (Fig. 8; Col. 7, lines 16-41; Col. 8, lines 51-67; Col. 9, lines 1-8; Col. 12, lines 43-67; Col. 13; Col. 14, lines 46-67; Col. 15, lines 1-29; and Col. 16, lines 21-27),
(Examiner specifically notes that reading data within Acharya is obvious (if not inherent) to

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determining the appropriate group of output ports, as a determination obviously cannot be made on anything without having read it first. Moreover, Examiner finds that Acharya does teach the broadcasting of data to all possible destinations, which broadcast is obviously done on all multicast paths, (group members), regardless of subsequent dropped data, (Acharya - Col. 13, lines 27-55)).

Thus, Claims 1, 8, and 15-17 are found to be unpatentable over considerable consideration of the teachings of Acharya.

10. Regarding Claims 2, 9, and 18, Acharya discloses a method for transmitting subsequent multicast data associated with the multicast group via only ports determined to be appropriate for the multicast group, (per pending Claims 2, 9 & 18), (Fig. 8; Col. 7, lines 16-41; Col. 12, lines 43-67; Col. 13; Col. 14, lines 46-67; & Col. 15, lines 1-29), and wherein state information includes the source parameter indicating a source of the data, (per pending Claim 23), (Col. 10, lines 42-49 and Col. 14, lines 39-45). Thus, Claims 2, 9, 18 & 23 are found to be unpatentable over considerable consideration of the teachings of Acharya.

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11. Regarding Claims 3, 10, and 19, Acharya discloses a method wherein the state information includes a group parameter indicating at least one destination of the data, (Col. 10, lines 42-49; Col. 14, lines 39-45; and Col. 18, lines 55-58), (per pending Claim 24); and wherein the reading of multicast data includes transmitting the multicast data via all ports except the port on which the multicast data was received, (per pending Claims 3, 10 & 19), (Fig. 8; Col. 7, lines 16-41; Col. 12, lines 43-67; Col. 13; Col. 14, lines 46-67; & Col. 15, lines 1-29). Thus, Claims 3, 10, and 19 are found to be unpatentable over considerable consideration of the teachings of Acharya.

12. Regarding Claims 4 & 11, Acharya discloses a method comprising performing a reverse path forwarding check on the data, (Col. 16, lines 8-27 and Col. 24, lines 43-58). Thus, Claims 4 & 11 are found to be unpatentable over considerable consideration of the teachings of Acharya.

13. Regarding Claims 5, 7, 12 and 14, Acharya discloses a method wherein performing and verifying is done using a multicast border gateway protocol, (Col. 24, lines 43-58). Thus, Claims 5, 7, 12 and 14 are found to be unpatentable over considerable consideration of the teachings of Acharya.

14. Regarding Claims 6 and 13, Acharya discloses a method comprising verifying that the data, including known state

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information, was received at the proper line card, (Col. 18, lines 42-67 and Col. 19, lines 1-19). Thus, Claims 6, 13 and 31 are found to be unpatentable over considerable consideration of the teachings of Acharya.

Allowable Subject Matter

Claims 20-36 are allowed for the reasons indicated previously.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C.

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Neurauter, Jr. whose telephone number is 571-272-3918. The examiner can normally be reached on Monday-Friday 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley, can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



George C. Neurauter, Jr.
Patent Examiner